

- 1 -

SEQUENCE LISTING

<110> AGT BIOSCIENCES LIMITED

Gregory, Royce, COLLIER (US Only)  
Kenneth, Russell, WALDER (US Only)  
James, Leonard, TREVASKIS (US Only)  
Janine, Susan, McMILLAN (US Only)  
Lyndal, Jane, BAYLES (US Only)

<120> Methods of Treatment and Prophylaxis

<130> 12581190/EJH

<150> US 60/553,823

<151> 2004-03-16

<160> 67

<170> PatentIn version 3.1

<210> 1

<211> 6317

<212> DNA

<213> Psammomys obesus

<400> 1

cagactcattt ggaaatataag gaatgcaattt ctgccaccat gatggaaagga ctgaaaaaac 60

gtacaaggaa ggcctttgga atacggaaga aagaaaaaga cactgactct acaggctcac 120

cagatcgaga tggaatgcag cccagccac acgagctccc ctaccatagc aaagcagagt 180

gtgcccggaga aggaggaaac aaagcttcga agaaaagcaa tggggcacca aatggatttt 240

atgcggaaat tgattggaa agatataact cacctgagct ggatgaagaa ggttacagca 300

tcagacctga ggaaccaggc tctaccaaag gaaagcactt ttattcttca agtgaatccg 360

aagaggagga agaatcgac aagaagttca atatcaagat taaacccttg cagtccaagg 420

acatccttaa gaatgctgca acagtagacg agctgaaggc ttccataggc aacattgcac 480  
tttccccttc gcctgtgagg aaaagtccga ggcgcagccc gggtgcaatt aaaaggaact 540  
tatccagtga agaagtcgca agacccaggc gttccacccc aactccagaa cttacaagca 600  
agaagcctct ggacgacact ctggcccttg ctccccttt tgcccaccc ttggaaatctg 660  
cttttgcatgg acacaagacg gaagttcttt tagatcagcc tgagatatgg ggttcaggcc 720  
aaccaggtaa cccaaagcatg gagtccacca agcttagcaag acctttccc actggAACCC 780  
ctccacacct gcctccaaaa actgttaccag ccaccccgcc tcggacaggc tcccccttaa 840  
cagtggcgac aggaaatgac caggcagcca cagaggccaa aattgagaaa ctaccatcca 900  
tcagtgcacct ggacagcatt tttggccccc tggtgtcccc caagtctgtt gctgttaata 960  
ctgaggagac gtgggtccat ttctctgtat catccccggaa acatgttact ccagagttga 1020  
ctccaaaggga aaagggtggtg acccccaccag ctgcattcaga catcccagct gactccccaa 1080  
ctccaggccc gcctggcccc ccaggctcgg caggtcccccc agggcctctt ggtcctcgca 1140  
atgttaccatc tccgctcaat ttggaaagaag tccagaagaa agtgcgtgag cagaccttca 1200  
ttaaagatga ttacttagaa acactctcat ctccctaaaga gtgtgggttg ggacagagag 1260  
caactccacc tccccccacca ccacccaccc acaggactgt ggttctgtcc cccggacctg 1320  
gctcgggcag tggtaacgggg accggccagtg gtgcattcgc ccctgctcgg ccagccaccc 1380  
ccttagttcc ttgcagctgc tccactccgc ctccacaccttcc tccccggctt ccattccggc 1440  
caaagctacc tccaggaaag cctggagttt gagacgtgtc cagacctttt agcccaccca 1500  
tacactcctc cagccctcctt ccaatagcactt ccttagccccgg ggctgaaagc acttcttcaa 1560

- 3 -

tatcatcaac caattccctg agcgcagcca ccactcccac agttgagaat gaacagsctt 1620  
ccctcgtttgc ttgttgcacaga ggaaagtttt atttgacttt tgaaggttct tccagggac 1680  
ccagtcctct aactatgggg gcccaggaca ccctcccggt tgcaagcagca ttcacagaaa 1740  
ctgtcaatgc ctacttcaaa ggagcagatc caagcaaatg cattgttaag atcacggag 1800  
aaatggtgtt gtcctttcct gctggcatca ccagacactt tgccaacaac ccatccccag 1860  
ctgctctgac tttcgagtg ataaattcca gcaggttaga gcacgtcctg ccgaaccccc 1920  
agctcctctg ctgcgataac acacaaaatg atgccaatac caaggaattc tgggtaaaca 1980  
tgccaaattt gatgacccac ctgaagaagg tctctgaaca aaaaccccag gctacatatt 2040  
acaatgtgga catgctcaag tatcaggtgt cagcccgagg cattcagtcc acacctctga 2100  
acttggcggt gaactggcgc tgtgagcctt ccagcactga cctgcbcata gattataagt 2160  
acaacacgga tgccatgtcc accgcagtgg cccttaacaa cgtgcagttc ctggccccca 2220  
ttgatggagg agtgaccaag ctccaggctg tccttcctcc agcagtctgg aatgctgaac 2280  
aacaaagaat attatggaag attcctgata tctcccgaaa gtcagaaaat ggaggcgtag 2340  
gttctttact ggcaagattt caattagccg aaggcccaag caaaccttcc ccactggctg 2400  
tgcaagttcac gagtgaaggg agcactctgt ctggctgcga cattgagctt gtggagcag 2460  
ggtacgggtt ttcaactcatc aagaagaggt ttgctgcagg aaaatacttg gccgataact 2520  
aataaaatgt catgcaagga tttgaagat ccatgtcctg gagaactgtt gtctgagaga 2580  
catattttaa tctggtttga ggaaaacaaa ccaaccgatg tctgtacgtggctctgtca 2640  
gctggaaggt cccggcttcc agccgtgatt tcccacaccc agtacaagga ggatcagttc 2700  
tacagtactt acttcttaggt gtactattgt taatggttt aaaatgtaat tattgtattt 2760

gtaaaactgta ccttcattcc agtaaggcag ttagacacct gagtttttagc tttttttcc 2820  
atccctgaaa cggatgtaat taaaactgcg gtatgtaaat ttaatagtag tactgtcgaa 2880  
tggcacaatg cttacagaga tacagtgcac tttgtcaata tataaaattt aaatataatg 2940  
ttgatagttt ccataaaggg ggtgccacac atcaagaacc ttaaatggaa ccagaaacaa 3000  
gcaagcaaac aaacaaacaa acaaacaaaa ccttactttt cttcactcct tattacattt 3060  
tcctctagag ctaaagaaac ttctagttc ggttttagtgg gttaaattca gaaactattt 3120  
cagaaaaaaa aaaaaattct gaagttacag catattcaaa gagaagcatt aattaccact 3180  
tttttaaaag ctttttttc aaaccgcaaa tttcataaaa atgcaaactg tgtaaacagg 3240  
gcctcttatt tttataactt gtgtaaaaag ggaaaatcaa ttcatattt aagttaagt 3300  
agtattaaat tatacctaag agtgaagagg atgttgaat cttacctgac cccatcccc 3360  
ttctttgcag tttagcaaat gttgagattt ctaaatcatc agattaaagc caacttgatt 3420  
tttaaagttt caagactttc tgaagctgaa ctggtaaaa ctttgcaca attgcttgaa 3480  
acggaggggg aggggcctct ctggccagc acaggtaccc tgggtttcc ctactcaca 3540  
gaatcaaaaac aatgaaagtc aagaaccaca gaggggggaa attagttccc tgttcagtc 3600  
aaaaggagaa cttaaactt atcatttacg tctttggga aggaagaaat aagctttata 3660  
agtgaaatcc tattcacctt gttgtcctat gaatgttttcc ggggtgactt taagattcat 3720  
tgtatacatg tgcgagtctc tgctattctt ggggagttga aagcagagcc aggccagtg 3780  
ctttgaagtt cagtaaatgc cacagttctg gggcaaagggt aggcattgagg gttctcccc 3840  
tcagcacagg aatcagagca gtgtcttgta aggtctaaag attaagtctt ccagtaagcc 3900

- 5 -

acaagttatt ttgttaacaga gttggggagt tttggcactc gctgctgact ttcattttgt 3960  
atccactcaa atggagtctt caactcttt caactttaga atcaaattaa tttttttttt 4020  
ttttttttt ttttacaca aggttactc tgtgttaactg tcctggatgt tctggaactc 4080  
ttttttaga ccaggctggc ctcgaactca gagagatcca cctgcctgtg ctccccaaagt 4140  
gctgggattta aaggcgtgtg ccaccatgcc tggcttagat taaattttt aagtcttact 4200  
tcaccagtga gattgtgatt ggcagttgtt tcgagagagc tttgtagctt aatctatgtt 4260  
ctcttcaatc aatgcttgct accaaaagaa tgtccaaaat gatctatttt tcctggAAC 4320  
aattcatcta tttaaatagg ctcttgccctaa gttcccaaaa gcagcctgtc tttgaaggtt 4380  
ttttgaaca aaataatttt ttcacaaaaa gtttggttt gaaatcaaaa tagagaaata 4440  
aaatgtaaat tttaaatcta atggaacatg aggaaatgaa aaaacttaag ccaatggaga 4500  
gtaaaagcag aaaaaaatga aacttaccta gaatgtgatt atattatgtt tttaagttagt 4560  
caattcatgg aaaaatattt aatattaaca caaagcatat taaaaatatg taaatattac 4620  
tgtttctcat gtcttctct ttatatctta ttttatatag ttttagaatg aattggtcat 4680  
taaatacagt gtttcttcc aaagaataat tttgttgata ttgtaaaaat gtaattaaag 4740  
atagagactt gaatagtctc taacattatc caaatgttc taggaaccaa attcaaagct 4800  
gtgaagaaag ctgcattcc ctgaattggc ttttggaaa tggatgacg gtggtaatc 4860  
tcaaaattca gacttgaata gtcagagctg aagtggggaa tgggtggttc cttctggttc 4920  
agaaaaatagg tcaaataaca gcatttgcgc gcatcaggga tggagatgtt ggtgatgtt 4980  
ggttttactc tcgcaggctt tgcgtctcctg ttgaagggtgt atctgttagcc cagtggata 5040  
agagttcatg ttctgagatg tggccttaga caaggcaggc aaggttcag tcatcaatac 5100

ctatcaggc aggtccctt ttgtctatac aaaatgggtt agctcatagc cagatggttt 5160  
gcaggacagt gagctaaatt aggacaagat tctggtagc caaagagctg tttcctaagc 5220  
actctgattt ttttttaaag ctgatagaaa gtgtaatgt totatttga cgacatggaa 5280  
agtatgtttt cctcttcaaa taaatccctt attttatga aattttcaaa aataaattct 5340  
tgtttaaaat agtctgaatg ttatcatagt tgaaacttgg caattactaa tttgaaattc 5400  
tatgagatgt atctccagct aaaatggcaa ttccctgtat gctatctggg gctcagttt 5460  
cctctaagga agactgtcag agtgcaaatg gtttgagtg acggaaagt caaagggcaa 5520  
atgtttgtgc ttttttcttt ttctgtctta tatacttctt ctggctctca gaatgcaaag 5580  
tatcagagcc atagttacac acatttccac ttttaacgct tctttgaag gaagcagatc 5640  
cacttttgc ccgcaactca tgcctgctgt gcagactcag acgagtcctt gccccttca 5700  
cgcccttggg gtgagagggg agccatatgt aagtagttt caagctttc ttaatggac 5760  
ttttctttt ctaataaaat catgcctgga atcctgtaaa gattgttgc tggctgtgaa 5820  
ggggcttcctc cagatcctga aatatacgat cacaatacgt aaatgactcc cgatggatct 5880  
cccagctctg aagacttgct cttctacttc acatgtgttag ccacgacgat cagctggcac 5940  
acagtacaat tagctgtgta gtgagtgctc cccagctatc agtcatgaaa catatcactt 6000  
tgctcaacct gttttaaaaa aagctccaaa atggtaaaaa tgctttcag tctttgtttt 6060  
cccaataatg gtattgaggc ctaagctgat taacttcccc caaagtggta ccacagctgg 6120  
taacgaccccc aatgatcctg aaaaaaatgg aatgagttacc ttgctgtttc rtttagtta 6180  
tttgggaaa ataatccatt tgaatgtcaa gataaaaagg caccaggaaa agtcctcatt 6240

- 7 -

ggaaggatta aagatgagcc tggtaagatg ttaagatgta agatgttaag atgtgttact 6300

gtaaaaaaaaaa aaagctt 6317

<210> 2

<211> 827

<212> PRT

<213> Psammomys obesus

<400> 2

Met Met Glu Gly Leu Lys Lys Arg Thr Arg Lys Ala Phe Gly Ile Arg  
1 5 10 15

Lys Lys Glu Lys Asp Thr Asp Ser Thr Gly Ser Pro Asp Arg Asp Gly  
20 25 30

Met Gln Pro Ser Pro His Glu Leu Pro Tyr His Ser Lys Ala Glu Cys  
35 40 45

Ala Arg Glu Gly Gly Asn Lys Ala Ser Lys Lys Ser Asn Gly Ala Pro  
50 55 60

Asn Gly Phe Tyr Ala Glu Ile Asp Trp Glu Arg Tyr Asn Ser Pro Glu  
65 70 75 80

Leu Asp Glu Glu Gly Tyr Ser Ile Arg Pro Glu Glu Pro Gly Ser Thr  
85 90 95

Lys Gly Lys His Phe Tyr Ser Ser Ser Glu Ser Glu Glu Glu Glu  
100 105 110

- 8 -

Ser His Lys Lys Phe Asn Ile Lys Ile Lys Pro Leu Gln Ser Lys Asp

115 120 125

Ile Leu Lys Asn Ala Ala Thr Val Asp Glu Leu Lys Ala Ser Ile Gly

130 135 140

Asn Ile Ala Leu Ser Pro Ser Pro Val Arg Lys Ser Pro Arg Arg Ser

145 150 155 160

Pro Gly Ala Ile Lys Arg Asn Leu Ser Ser Glu Glu Val Ala Arg Pro

165 170 175

Arg Arg Ser Thr Pro Thr Pro Glu Leu Thr Ser Lys Lys Pro Leu Asp

180 185 190

Asp Thr Leu Ala Leu Ala Pro Leu Phe Gly Pro Pro Leu Glu Ser Ala

195 200 205

Phe Asp Gly His Lys Thr Glu Val Leu Leu Asp Gln Pro Glu Ile Trp

210 215 220

Gly Ser Gly Gln Pro Val Asn Pro Ser Met Glu Ser Pro Lys Leu Ala

225 230 235 240

Arg Pro Phe Pro Thr Gly Thr Pro Pro Pro Leu Pro Pro Lys Thr Val

245 250 255

Pro Ala Thr Pro Pro Arg Thr Gly Ser Pro Leu Thr Val Ala Thr Gly

260 265 270

- 9 -

Asn Asp Gln Ala Ala Thr Glu Ala Lys Ile Glu Lys Leu Pro Ser Ile  
275 280 285

Ser Asp Leu Asp Ser Ile Phe Gly Pro Val Leu Ser Pro Lys Ser Val  
290 295 300

Ala Val Asn Thr Glu Glu Thr Trp Val His Phe Ser Asp Ala Ser Pro  
305 310 315 320

Glu His Val Thr Pro Glu Leu Thr Pro Arg Glu Lys Val Val Thr Pro  
325 330 335

Pro Ala Ala Ser Asp Ile Pro Ala Asp Ser Pro Thr Pro Gly Pro Pro  
340 345 350

Gly Pro Pro Gly Ser Ala Gly Pro Pro Gly Pro Pro Gly Pro Arg Asn  
355 360 365

Val Pro Ser Pro Leu Asn Leu Glu Glu Val Gln Lys Lys Val Ala Glu  
370 375 380

Gln Thr Phe Ile Lys Asp Asp Tyr Leu Glu Thr Leu Ser Ser Pro Lys  
385 390 395 400

Glu Cys Gly Leu Gly Gln Arg Ala Thr Pro Pro Pro Pro Pro Pro  
405 410 415

- 10 -

Thr Tyr Arg Thr Val Val Ser Ser Pro Gly Pro Gly Ser Gly Ser Gly  
420 425 430

Thr Gly Thr Ala Ser Gly Ala Ser Ser Pro Ala Arg Pro Ala Thr Pro  
435 440 445

Leu Val Pro Cys Ser Cys Ser Thr Pro Pro Pro Pro Pro Arg Pro  
450 455 460

Pro Ser Arg Pro Lys Leu Pro Pro Gly Lys Pro Gly Val Gly Asp Val  
465 470 475 480

Ser Arg Pro Phe Ser Pro Pro Ile His Ser Ser Ser Pro Pro Pro Ile  
485 490 495

Ala Pro Leu Ala Arg Ala Glu Ser Thr Ser Ser Ile Ser Ser Thr Asn  
500 505 510

Ser Leu Ser Ala Ala Thr Thr Pro Thr Val Glu Asn Glu Gln Ala Ser  
515 520 525

Leu Val Trp Phe Asp Arg Gly Lys Phe Tyr Leu Thr Phe Glu Gly Ser  
530 535 540

Ser Arg Gly Pro Ser Pro Leu Thr Met Gly Ala Gln Asp Thr Leu Pro  
545 550 555 560

Val Ala Ala Ala Phe Thr Glu Thr Val Asn Ala Tyr Phe Lys Gly Ala  
565 570 575

- 11 -

Asp Pro Ser Lys Cys Ile Val Lys Ile Thr Gly Glu Met Val Leu Ser  
580 585 590

Phe Pro Ala Gly Ile Thr Arg His Phe Ala Asn Asn Pro Ser Pro Ala  
595 600 605

Ala Leu Thr Phe Arg Val Ile Asn Ser Ser Arg Leu Glu His Val Leu  
610 615 620

Pro Asn Pro Gln Leu Leu Cys Cys Asp Asn Thr Gln Asn Asp Ala Asn  
625 630 635 640

Thr Lys Glu Phe Trp Val Asn Met Pro Asn Leu Met Thr His Leu Lys  
645 650 655

Lys Val Ser Glu Gln Lys Pro Gln Ala Thr Tyr Tyr Asn Val Asp Met  
660 665 670

Leu Lys Tyr Gln Val Ser Ala Gln Gly Ile Gln Ser Thr Pro Leu Asn  
675 680 685

Leu Ala Val Asn Trp Arg Cys Glu Pro Ser Ser Thr Asp Leu Arg Ile  
690 695 700

Asp Tyr Lys Tyr Asn Thr Asp Ala Met Ser Thr Ala Val Ala Leu Asn  
705 710 715 720

Asn Val Gln Phe Leu Val Pro Ile Asp Gly Gly Val Thr Lys Leu Gln  
725 730 735

- 12 -

Ala Val Leu Pro Pro Ala Val Trp Asn Ala Glu Gln Gln Arg Ile Leu  
740 745 750

Trp Lys Ile Pro Asp Ile Ser Gln Lys Ser Glu Asn Gly Gly Val Gly  
755 760 765

Ser Leu Leu Ala Arg Phe Gln Leu Ala Glu Gly Pro Ser Lys Pro Ser  
770 775 780

Pro Leu Val Val Gln Phe Thr Ser Glu Gly Ser Thr Leu Ser Gly Cys  
785 790 795 800

Asp Ile Glu Leu Val Gly Ala Gly Tyr Gly Phe Ser Leu Ile Lys Lys  
805 810 815

Arg Phe Ala Ala Gly Lys Tyr Leu Ala Asp Asn  
820 825

<210> 3  
<211> 499  
<212> PRT  
<213> Human

<400> 3

Met Met Glu Gly Leu Lys Lys Arg Thr Arg Lys Ala Phe Gly Ile Arg  
1 5 10 15

Lys Lys Glu Lys Asp Thr Asp Ser Thr Gly Ser Pro Asp Arg Asp Gly  
20 25 30

- 13 -

Met Gln Pro Ser Pro His Glu Leu Pro Tyr His Ser Lys Ala Glu Cys  
35 40 45

Ala Arg Glu Gly Gly Lys Lys Ala Ser Lys Lys Ser Asn Gly Ala Pro  
50 55 60

Asn Gly Phe Tyr Ala Glu Ile Asp Trp Glu Arg Tyr Asn Ser Pro Glu  
65 70 75 80

Leu Asp Glu Glu Gly Tyr Ser Ile Arg Pro Glu Glu Pro Gly Ser Thr  
85 90 95

Lys Gly Lys His Phe Tyr Ser Ser Ser Glu Ser Glu Glu Glu Glu  
100 105 110

Ser His Lys Lys Phe Asn Ile Lys Ile Lys Pro Leu Gln Ser Lys Asp  
115 120 125

Ile Leu Lys Asn Ala Ala Thr Val Asp Glu Leu Lys Ala Ser Ile Gly  
130 135 140

Asn Ile Ala Leu Ser Pro Ser Pro Val Arg Lys Ser Pro Arg Arg Ser  
145 150 155 160

Pro Gly Ala Ile Lys Arg Asn Leu Ser Ser Glu Glu Val Ala Arg Pro  
165 170 175

- 14 -

Arg Arg Ser Thr Pro Thr Pro Glu Leu Thr Ser Lys Lys Pro Leu Asp  
180 185 190

Asp Thr Leu Ala Leu Ala Pro Leu Phe Gly Pro Pro Leu Glu Ser Ala  
195 200 205

Phe Asp Gly His Lys Thr Glu Val Leu Leu Asp Gln Pro Glu Ile Trp  
210 215 220

Gly Ser Gly Gln Pro Val Asn Pro Ser Met Glu Ser Pro Lys Leu Ala  
225 230 235 240

Arg Pro Phe Pro Thr Gly Thr Pro Pro Pro Leu Pro Pro Lys Thr Val  
245 250 255

Pro Ala Thr Pro Pro Arg Thr Gly Ser Pro Leu Thr Val Ala Thr Gly  
260 265 270

Asn Asp Gln Ala Ala Thr Glu Ala Lys Ile Glu Lys Pro Pro Ser Ile  
275 280 285

Ser Asp Leu Asp Ser Ile Phe Gly Pro Val Leu Ser Pro Lys Ser Val  
290 295 300

Ala Val Asn Thr Glu Glu Thr Trp Val His Phe Ser Asp Ala Ser Pro  
305 310 315 320

Glu His Val Thr Pro Glu Leu Thr Pro Arg Glu Lys Val Val Thr Pro  
325 330 335

- 15 -

Pro Ala Ala Ser Asp Ile Pro Ala Asp Ser Pro Thr Pro Gly Pro Pro  
340 345 350

Gly Pro Pro Gly Ser Ala Gly Pro Pro Gly Pro Pro Gly Pro Arg Asn  
355 360 365

Val Pro Ser Pro Leu Asn Leu Glu Glu Val Gln Lys Lys Val Ala Glu  
370 375 380

Gln Thr Phe Ile Lys Asp Asp Tyr Leu Glu Thr Leu Ser Ser Pro Lys  
385 390 395 400

Glu Cys Gly Leu Gly Gln Arg Glu Thr Pro Pro Pro Pro Pro Pro  
405 410 415

Thr Tyr Arg Thr Val Val Ser Ser Pro Gly Pro Gly Ser Gly Ser Gly  
420 425 430

Thr Gly Thr Ala Ser Gly Ala Ser Ser Pro Ala Arg Pro Ala Thr Pro  
435 440 445

Leu Val Pro Cys Ser Cys Ser Thr Pro Pro Pro Pro Pro Arg Pro  
450 455 460

Pro Ser Arg Pro Lys Leu Pro Pro Gly Lys Pro Gly Val Gly Asp Val  
465 470 475 480

Ser Arg Pro Phe Ser Pro Pro Ile His Ser Ser Ser Pro Pro Pro Ile  
485 490 495

- 16 -

Ala Pro Leu

<210> 4

<211> 259

<212> PRT

<213> Human

<400> 4

Arg Pro Phe Pro Thr Gly Thr Pro Pro Pro Leu Pro Pro Lys Thr Val  
1 5 10 15

Pro Ala Thr Pro Pro Arg Thr Gly Ser Pro Leu Thr Val Ala Thr Gly  
20 25 30

Asn Asp Gln Ala Ala Thr Glu Ala Lys Ile Glu Lys Pro Pro Ser Ile  
35 40 45

Ser Asp Leu Asp Ser Ile Phe Gly Pro Val Leu Ser Pro Lys Ser Val  
50 55 60

Ala Val Asn Thr Glu Glu Thr Trp Val His Phe Ser Asp Ala Ser Pro  
65 70 75 80

Glu His Val Thr Pro Glu Leu Thr Pro Arg Glu Lys Val Val Thr Pro  
85 90 95

Pro Ala Ala Ser Asp Ile Pro Ala Asp Ser Pro Thr Pro Gly Pro Pro  
100 105 110

- 17 -

Gly Pro Pro Gly Ser Ala Gly Pro Pro Gly Pro Pro Gly Pro Arg Asn  
115 120 125

Val Pro Ser Pro Leu Asn Leu Glu Glu Val Gln Lys Lys Val Ala Glu  
130 135 140

Gln Thr Phe Ile Lys Asp Asp Tyr Leu Glu Thr Leu Ser Ser Pro Lys  
145 150 155 160

Glu Cys Gly Leu Gly Gln Arg Ala Thr Pro Pro Pro Pro Pro Pro  
165 170 175

Thr Tyr Arg Thr Val Val Ser Ser Pro Gly Pro Gly Ser Gly Ser Gly  
180 185 190

Thr Gly Thr Ala Ser Gly Ala Ser Ser Pro Ala Arg Pro Ala Thr Pro  
195 200 205

Leu Val Pro Cys Ser Cys Ser Thr Pro Pro Pro Pro Pro Arg Pro  
210 215 220

Pro Ser Arg Pro Lys Leu Pro Pro Gly Lys Pro Gly Val Gly Asp Val  
225 230 235 240

Ser Arg Pro Phe Ser Pro Pro Ile His Ser Ser Ser Pro Pro Pro Ile  
245 250 255

- 18 -

Ala Pro Leu

<210> 5  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP ID 1373910 Forward primer

<400> 5  
gttggtttat cactggcagt c

21

<210> 6  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP ID 1373910 Reverse primer

<400> 6  
gagcattgca aagaggatgg g

21

<210> 7  
<211> 37  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP ID 1373910 SNP sequence

- 19 -

<220>  
<221> misc\_feature  
<222> (21)..(21)  
<223> "n" is either "a" or "g"

<400> 7  
caaagaggat gggagggttt ntattaggtc ctgtgtg

37

<210> 8  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP ID 1445579 Forward primer

<400> 8  
gcaagcaaac tgcagcattt c

21

<210> 9  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP ID 1445579 Reverse primer

<400> 9  
gatgtgcagc cagtgtatgt g

21

- 20 -

<210> 10  
<211> 41  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP ID 1445579 SNP sequence

<220>  
<221> misc\_feature  
<222> (21)..(21)  
<223> "n" is either "g" or "t"

<400> 10  
ttctagaacc tggttgccaa nttttgcaa gcagaaatgc t

41

<210> 11  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP 1900105 Forward primer

<400> 11  
gttcttccct ctgggtctat c

21

<210> 12  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP 1900105 Reverse primer

- 21 -

<400> 12  
gaataaggaa aggccctccag c 21

<210> 13  
<211> 42  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP 1900105 SNP sequence

<220>  
<221> misc\_feature  
<222> (23)..(23)  
<223> "n" is either "c" or "g"

<400> 13  
tgggtctatac tcctgctctg tgnctttacc tctggtcaca gg 42

<210> 14  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP 2146904 Forward primer

<400> 14  
gaactgtcat gcaacctgct g 21

- 22 -

<210> 15  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP 2146904 Reverse primer

<400> 15  
gctcagatgc accctgtata t

21

<210> 16  
<211> 38  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP 2146904 SNP sequence

<220>  
<221> misc\_feature  
<222> (20)..(20)  
<223> "n" is either "a" or "g"

<400> 16  
tgtatattta ctgttcatcn tggaaactcgt gccactga

38

<210> 17  
<211> 21  
<212> DNA  
<213> Artificial Sequence

- 23 -

<220>

<223> SNP 4143026 Forward primer

<400> 17

gcaaatttagc ctgccagaga g

21

<210> 18

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> SNP 4143026 Reverse primer

<400> 18

gtgaagttag gacaggaaag g

21

<210> 19

<211> 41

<212> DNA

<213> Artificial Sequence

<220>

<223> SNP 4143026 SNP sequence

<220>

<221> misc\_feature

<222> (20)..(20)

<223> "n" is either "c" or "t"

<400> 19

gcaaaaattca tgaatttgcn gctgcttggt aacaccaccc c

41

- 24 -

<210> 20  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP 604737 Forward primer

<400> 20  
gggccattc aacaatacta c

21

<210> 21  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP 604737 Reverse primer

<400> 21  
gggcagtttag acacttgagt t

21

<210> 22  
<211> 43  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP 604737 SNP sequence

<220>  
<221> misc\_feature  
<222> (23)..(23)  
<223> "n" is either "c" or "t"

- 25 -

<400> 22  
ttttaccatt cctgaaatgg atntaattta aactgtggta tgt 43

<210> 23  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP 485521 Forward primer

<400> 23  
ggtaaaaagg gaaagcaatt c 21

<210> 24  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP 485521 Reverse primer

<400> 24  
ggagaggggc aagtagttaa g 21

<210> 25  
<211> 41  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP 485521 SNP sequence

- 26 -

<220>  
<221> misc\_feature  
<222> (19)..(19)  
<223> "n" is either "a" or "g"

<400> 25  
tcaagagtaa agaagatgnt gaagtcttaa ctacttgccc c

41

<210> 26  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP 1373909 Forward primer

<400> 26  
gctcccatcc tctttgcaat g

21

<210> 27  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP 1373909 Reverse primer

<400> 27  
gttctgctta gaaggcttgg g

21

- 27 -

<210> 28  
<211> 41  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP 1373909 SNP sequence

<220>  
<221> misc\_feature  
<222> (21)..(21)  
<223> "n" is either "a" or "g"

<400> 28  
gtgttcatgg agataacagc naatggtctt ccaggaattt a

41

<210> 29  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP 4655650 Forward primer

<400> 29  
gtgcaggcgt tttcagtttt g

21

<210> 30  
<211> 21  
<212> DNA  
<213> Artificial Sequence

- 28 -

<220>

<223> SNP 4655650 Reverse primer

<400> 30

gcagacat~~ta~~ accccatgaa c

21

<210> 31

<211> 42

<212> DNA

<213> Artificial Sequence

<220>

<223> SNP 4655650 SNP sequence

<220>

<221> misc\_feature

<222> (24)..(24)

<223> "n" is either "c" or "t"

<400> 31

cgttttcagt tttgaagcat attnatagga ggctttaat ca

42

<210> 32

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> SNP 657808 Forward primer

<400> 32

gtaaaaactct ctttctggat c

21

- 29 -

<210> 33  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP 657808 Reverse primer

<400> 33  
gaccacagg aatcaaaacg c

21

<210> 34  
<211> 40  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP 657808 SNP sequence

<220>  
<221> misc\_feature  
<222> (23)..(23)  
<223> "n" is either "a" or "g"

<400> 34  
aatttttaggg aaaaaaaaaagt ccnctgttta gatccagaag

40

<210> 35  
<211> 21  
<212> DNA  
<213> Artificial Sequence

- 30 -

<220>

<223> SNP 1373911 Forward Primer

<400> 35

gccccatttc atttggccaa c

21

<210> 36

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> SNP 1373911 Reverse primer

<400> 36

gtttggggat gcatctacaa g

21

<210> 37

<211> 41

<212> DNA

<213> Artificial Sequence

<220>

<223> SNP 1373911 SNP sequence

<220>

<221> misc\_feature

<222> (22)..(22)

<223> "n" is either "c" or "t"

<400> 37

tcttaaattt acttrgcctt angtttagat ccaacttgga t

41

- 31 -

<210> 38  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP 2146905 Foward primer

<400> 38  
gtctcacatg cagccacaaa g

21

<210> 39  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP 2146905 Reverse primer

<400> 39  
gtgctcccca gaaaatttgtt c

21

<210> 40  
<211> 40  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP 2146905 SNP sequence

<220>  
<221> misc\_feature  
<222> (22)..(22)  
<223> "n" is either "a" or "c"

- 32 -

<400> 40  
taattcattc atttgagaga cnctaaagga aggaaaattg 40

<210> 41  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP 4655643 Forward primer

<400> 41  
gggggtgggta gttttaatg tc 22

<210> 42  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP 4655643 Reverse primer

<400> 42  
gactatttc cgttactctc c 21

<210> 43  
<211> 40  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP 4655643 SNP sequence

- 33 -

<220>  
<221> misc\_feature  
<222> (20)..(20)  
<223> "n" is either "a" or "c"

<400> 43  
tacrtttcc tataaactcn tcatgtggag agtaacggaa

40

<210> 44  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP 1338200 Forward primer

<400> 44  
gatgaactgc agaggcagta c

21

<210> 45  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP 1338200 Reverse primer

<400> 45  
gttttccaaa tgaaaataca g

21

<210> 46  
<211> 39  
<212> DNA  
<213> Artificial Sequence

- 34 -

<220>

<223> SNP 1338200 SNP sequence

<220>

<221> misc\_feature

<222> (19)..(19)

<223> "n" is either "a" or "c"

<400> 46

tgaaaataca gagcgagana gctttttta aaaaaaata

39

<210> 47

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> SNP 502690 Forward primer

<400> 47

gccccaaagaa cctcaggaaa t

21

<210> 48

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> SNP 502690 Reverse primer

<400> 48

gtactttca gagcaaagca c

21

- 35 -

<210> 49  
<211> 42  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP 502690 SNP sequence

<220>  
<221> misc\_feature  
<222> (22)..(22)  
<223> "n" is either "a" or "t"

<400> 49  
tttaaataat aaaaatgatg tntatatgtg tgctttgctc tg

42

<210> 50  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP 3078564 Forward primer

<400> 50  
ggattcagtg tattgacatg g

21

<210> 51  
<211> 21  
<212> DNA  
<213> Artificial Sequence

- 36 -

<220>

<223> SNP 3078564 Reverse primer

<400> 51

gtgacaacac catttctccg g

21

<210> 52

<211> 40

<212> DNA

<213> Artificial Sequence

<220>

<223> SNP 3078564 SNP sequence

<220>

<221> misc\_feature

<222> (23)..(23)

<223> "n" is either "a" or "c" or "g" or "t"

<400> 52

gtattgacat ggattttctc tcntttcctc tctgtgtttt

40

<210> 53

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> SNP 1325267 Forward primer

<400> 53

gtgctgaatg acagtttgcc c

21

- 37 -

<210> 54  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP 1325267 Reverse primer

<400> 54  
gatggagcag aagtcttcct g

21

<210> 55  
<211> 39  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP 1325267 SNP sequence

<220>  
<221> misc\_feature  
<222> (21)..(21)  
<223> "n" is either "c" or "t"

<400> 55  
gtgcagttaa aatatgctga ngccccctgca tggccagga

39

<210> 56  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP 1856319 Forward primer

- 38 -

<400> 56  
gccaacttcc tttttagag c 21

<210> 57  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP 1856319 Reverse primer

<400> 57  
gttagatgtg gaaaacttgc c 21

<210> 58  
<211> 39  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP 1856319 SNP sequence

<220>  
<221> misc\_feature  
<222> (20)..(20)  
<223> "n" is either "c" or "t"

<400> 58  
aatcaagggg aaagaaaaan ttgaattgct ctacaaaag 39

- 39 -

<210> 59  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP 1325266 Forward primer

<400> 59  
ggggtgtttt gtgtctggat g

21

<210> 60  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP 1325266 Reverse primer

<400> 60  
gcagggaaga tgtcacatat c

21

<210> 61  
<211> 39  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP 1325266 SNP sequence

<220>  
<221> misc\_feature  
<222> (21)..(21)  
<223> "n" is either "a" or "g"

- 40 -

<400> 61  
ggatgcctaa ggtgattcca ngggagggga tggaagata 39

<210> 62  
<211> 41  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> SNP 3078564 SNP sequence

<220>  
<221> misc\_feature  
<222> (24)..(24)  
<223> "n" is either "a" or "c" or "g" or "t"

<400> 62  
gtattgacat ggattttctc tccnnttcct ctctgtgttt t 41

<210> 63  
<211> 35  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> FIT-NP oligonucleotide

<400> 63  
gtacagtcga ctatgatgga aggactgaaa aaacg 35

- 41 -

<210> 64  
<211> 28  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> FIT-PR oligonucleotide

<400> 64  
gtacagtcga ccagaccttt tcccaactg

28

<210> 65  
<211> 26  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Antisense oligonucleotide

<400> 65  
atagcggccg cggcttaaggg tgctat

26

<210> 66  
<211> 21  
<212> DNA  
<213> primer

<400> 66  
tgaaggcttc cataggcaac a

21

- 42 -

<210> 67  
<211> 18  
<212> DNA  
<213> primer

<400> 67  
tggaacgcct gggtcttg

18